



## Freeform Search

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<b>Term:</b>	<input type="text" value="l3 and nonwoven"/>  
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<b>Display:</b>	<input type="text" value="10"/>	<b>Documents in Display Format:</b>	<input type="text" value="-"/>	<b>Starting with Number</b>	<input type="text" value="1"/>
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**Generate:** ☐ Hit List ☒ Hit Count ☐ Side by Side ☐ Image

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### Search History

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**DATE:** Wednesday, December 24, 2003    [Printable Copy](#)    [Create Case](#)

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>			
<u>L4</u>	l3 and nonwoven	4	<u>L4</u>
<u>L3</u>	L2 and wipe	5	<u>L3</u>
<u>L2</u>	L1 and 424/\$.ccls.	136	<u>L2</u>
<u>L1</u>	water adj jets	26948	<u>L1</u>

END OF SEARCH HISTORY

First Hit   Fwd Refs

**End of Result Set**

L4: Entry 4 of 4

File: USPT

Nov 9, 1999

DOCUMENT-IDENTIFIER: US 5980924 A

TITLE: Skin cleansing sheet

Detailed Description Text (21):

No particular limitation is imposed on the sheet (c) used herein. For example, either woven fabric or nonwoven fabric of natural fibers or synthetic fibers may be used. Specific examples thereof include woven fabrics and nonwoven fabrics of rayon, acetate, acrylic, polyester, polyethylene, polypropylene, polyurethane, polyamide, cotton and the like, and tissue paper (made of natural pulp).

Detailed Description Text (22):

Of these, nonwoven fabrics (made of natural or synthetic fibers) of hydrophilic fibers, for example, cotton or rayon, are preferred in that their production and touch are easy to control. Nonwoven fabrics made of natural fibers are more preferred in that they are good to the touch.

Detailed Description Text (24):

When a nonwoven fabric, wherein

Detailed Description Text (28):

(4) it is a nonwoven fabric fabricated by water-jet interminglement; and

Detailed Description Text (30):

is used as the sheet (c), a skin cleansing sheet, which has excellent retention of the aqueous detergent composition therein and high detergency to oily smears such as smears of makeup and sebum, scarcely strike through smears and gives users a pleasant feeling upon use, can be obtained. It is hence preferable to use such a nonwoven fabric.

Detailed Description Text (31):

The content of cellulose in the nonwoven fabric used as the sheet (c) is preferably at least 50 wt. %, particularly at least 70 wt. % in that the aqueous detergent composition can be retained well.

Detailed Description Text (32):

In the nonwoven fabric, fiber components other than cellulose include various kinds of synthetic fibers, for example, fibers made of polyolefin resins such as polypropylene and polyethylene, fibers made of polyester resins, polyacrylic resins and polyamide resins such as nylon, fibers made of copolymers and modified products of these resins, and synthetic fibers containing titanium oxide in a proportion of at least 0.5 wt. %, preferably 0.5-5 wt. %, more preferably 1-5 wt. %. Any combination of these fibers may be used.

Detailed Description Text (33):

The fibers making up the nonwoven fabric may be either in the form of a uniform circle in section or in the form of a triangle, star, quatrefoil or cloud in section, or may have a hollow modified cross-section or a cross-section of conjugated fiber composed of a combination of cellulose and a synthetic fiber (see FIGS. 1 and 2). Even when the fibers having the cross-section of conjugated fiber are used, it is only necessary for the fibers to contain cellulose in a proportion

of at least 50 wt. %.

Detailed Description Text (34):

The average basis weight of the nonwoven fabric is preferably within a range of 20-120 g/m.sup.2, more preferably 30-100 g/m.sup.2, most preferably 40-80 g/m.sup.2 in that a skin cleansing sheet having a better feel upon use and undergoing no strike through of smears wiped off can be obtained. The average basis weight can be determined by measuring the weight of the fabric per unit area (1 m.sup.2) in accordance with a method known per se in the art.

Detailed Description Text (35):

The average fineness of constituent fibers of the nonwoven fabric is preferably at most 3 d (deniers), more preferably at most 2 d, most preferably at most 1.5 d in that a cleansing sheet having the good ability to wipe off smears and high detergency can be provided. The average fineness is determined by measuring the thickness of fibers through a microscope and averaging the measured values.

Detailed Description Text (36):

When fibers having an average fineness of about 1.5-3 d are used, it is preferable to use extra fine fibers having an average fineness of at most 1.0 d in combination from the viewpoint of the ability to wipe off smears.

Detailed Description Text (37):

The nonwoven fabric is fabricated by water-jet interminglement. This production method is preferable in that a nonwoven fabric good to the touch is obtained.

Detailed Description Text (38):

The reflectance of the nonwoven fabric is preferably at least 45%, more preferably at least 50%, most preferably at least 60% when measured in a dry state in that smears are scarcely struck through, and so a virgin surface of the cleansing sheet is hard to smear. The reflectance is determined in the following manner. Namely, the measurement is conducted 5-10 times at a wavelength of 500 nm by means of an SZ-.SIGMA.80 color-difference meter manufactured by Nippon Denshoku Kogyo K.K. selecting the following measuring conditions: a lens 30 mm in diameter, sample stand, light source C/2 and a spectral curve.multidot.reflectance mode, and the measured values are averaged.

Detailed Description Text (39):

The distribution of the constituent fibers of this nonwoven fabric may be such that homogeneous fibers are dispersed or that fibers different from each other in thickness, kind, nature and the like are mixed at random. However, it is preferable that the fibers different from each other in thickness, kind, nature and the like be distributed laminarily in the direction of thickness from the viewpoints of the ability to wipe off smears and anti-striking through. For example, (1) a two-layer fabric composed of a wiping layer formed mainly of rayon having a fineness of 0.8-1.5 d and a shielding layer (high opacifying layer) composed of one of a synthetic fiber containing 1-5 wt. % of TiO.sub.2, an extra fine fiber by a melt blown method and a divided fiber, or a combination of two or more of them; (2) a three-layer fabric of sandwich structure that an additional wiping layer is applied to the fabric of the construction (1); and (3) a multi-layer fabric of 4 or more layers may preferably be used.

Detailed Description Text (77):

An aqueous composition having the following formulation was prepared in accordance with a method known per se in the art. The composition was impregnated to a pickup of 3.5 g/g into a 100%-cotton nonwoven fabric (Cotton Ace C060S/A01, product of Unichika, Ltd.) to produce a skin cleansing sheet.

Detailed Description Text (80):

Skin cleansing sheets (pickup of aqueous detergent composition: 3.5 g/g of nonwoven

Detailed Description Text (81):

Detailed Description Text (94):

Detailed Description Paragraph Table (3):

TABLE 3

Comparative product	Component	(wt. %)	1	2	3	4	5	6	7
Polyethylene glycol (n = 12) monolaurate HLB:	14	10	10	10	10				
Polyethylene glycol (n = 20) monolaurate HLB:	15								
Polyethylene glycol (n = 12) monoisostearate HLB:	12								
Polyethylene glycol (n = 6) caprate HLB:	about 8	10							
Polyethylene glycol (n = 25) octyldodecylate HLB:	about 18	10							
Lauric acid triethanolamine salt	10								
Glycerol	10	10							
Sodium chloride	20	10	10	10					
Carboxyvinyl polymer	0.5								
Water	80	79.5	90	70	80	80	80		
Sheet*	-- -- B -- B B B	Detergency	.largecircle.	.DELTA.	.DELTA.	.largecircle.			
	.largecircle. X .DELTA.	Detergent speed	.largecircle.	.DELTA.	.DELTA.	.largecircle.			
	.largecircle. . X .DELTA.	Handling property	X X	.largecircle.	X	.largecircle.			
	.largecircle. .largecircle.	Feeling upon use	.largecircle.	X	.largecircle.				
	.largecircle. .DELTA.	Irritativeness to skin	.largecircle. X	Weak	Weak	Weak	Medium		
	Weak Weak Strong	Stability	.largecircle.	.largecircle.	.largecircle.	X	.DELTA.		
	.largecirc le.		.largecircle.						

\*Sheet

A; Cotton nonwoven fabric (Cotton Ace C040S/A01, product of Unichika, Ltd.), basis weight: 40 g/m.sup.2, pickup: 3.5 g/g. Sheet B; Cotton nonwoven fabric (Cotton Ace C060S/A01, product of Unichika, Ltd.), basis weight: 60 g/m.sup.2, pickup: 3.5 g/g. Sheet C; Cotton nonwoven fabric (Cotton Ace C060S/A01, product of Unichika, Ltd.), basis weight: 60 g/m.sup.2, pickup: 5 g/g. Sheet D; Rayon nonwoven fabric (Pilose PXD0060, product of Omikenshi Co., Ltd.), basis weight: 60 g/m.sup.2, pickup: 3.5 g/g.

Detailed Description Paragraph Table (5):

TABLE 4

[illegible]

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Current US Original Classification (1):

424/402

Current US Cross Reference Classification (1):

424/401

CLAIMS:

4. The skin cleansing sheet according to any one of claims 1 to 3, wherein the sheet (c) is a woven fabric or nonwoven fabric of natural fibers or synthetic fibers.

5. The skin cleansing sheet according to any one of claims 1 to 3, wherein the sheet (c) is a nonwoven fabric, wherein

(1) the content of cellulose is at least 50 wt. %;

(2) the average basis weight is 20-120 g/m.<sup>sup.2</sup> ;

(3) the average fineness of constituent fibers is at most 3 d (deniers);

(4) it is a nonwoven fabric fabricated by water-jet interminglement; and

(5) the reflectance is at least 45% when measured in a dry state.

First Hit**End of Result Set**

L6: Entry 1 of 1

File: JPAB

Jul 16, 2002

PUB-NO: JP02002201112A  
DOCUMENT-IDENTIFIER: JP 2002201112 A  
TITLE: COSMETIC OR DERMATOLOGICAL IMPREGNATED

PUBN-DATE: July 16, 2002

## INVENTOR-INFORMATION:

NAME

COUNTRY

DRUCKS, ANJA

VON, DER FECHT STEPHANIE

KUTHEL, JORG

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

BEIERSDORF AG

APPL-NO: JP2001356212

APPL-DATE: November 21, 2001

PRIORITY-DATA: 2000DE-10059584 (November 30, 2000)

INT-CL (IPC): A61 K 7/00; A61 K 7/32; A61 K 7/42

## ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a cosmetic or dermatological impregnated wipe having no defects of low tear resistance by combination of high roughness and hardness, suitable for skin care and/or cleaning.

SOLUTION: This dermatological wipe comprising a nonwoven fabric material which is wetted with a cosmetic or dermatological impregnation solution having <2,000 mPa.s viscosity and water-jet-consolidated and/or water-jet-impressed is produced.

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First Hit   Fwd Refs

**End of Result Set**

L12: Entry 1 of 1

File: USPT

Mar 26, 2002

DOCUMENT-IDENTIFIER: US 6361784 B1

TITLE: Soft, flexible disposable wipe with embossing

Abstract Text (1):

A nonwoven wipe suitable for use as a pre-moistened baby wipe comprised of thermoplastic fibers having a predetermined nominal fiber length, the wipe being calendar-embossed with a pattern comprising a plurality of discrete icons, each of the icons having an equivalent icon diameter of at least about one half the nominal fiber length, and the plurality of icons being separated one from another by an equivalent unbonded area diameter of at least about one half the nominal fiber length. In a preferred embodiment the nonwoven web is spunlaced, with a fiber composition of between about 40%-60% viscose, and the remainder thermoplastic fiber. The wipes of the present invention combine superior softness with embossed designs for better aesthetic appeal.

Brief Summary Text (4):

Pre-moistened cleansing wipes are well known, and are often referred to as wet wipes, towelettes, and the like. Pre-moistened wipes include a substrate, such as a nonwoven web, pre-moistened with a lotion. The lotion can be an aqueous lotion, and may include skin conditioning ingredients. One preferred lotion comprises polymeric emulsifiers, such as sodium acrylates, and silicon oil, such as dimethicone in an oil-in-water emulsion type formulation.

Brief Summary Text (6):

Pre-moistened wipes find use at home or away from home, especially with the cleansing of children and infants. For example, wipes are often used to clean an infant's skin during a diaper change. As well, pre-moistened wipes find use among adults, often in conjunction with the use of incontinence articles. Other uses of pre-moistened wipes include general cleaning tasks where soap, cloths, and running water may be unavailable, unsuitable, or inconvenient for a particular task. In almost all instances, pre-moistened wipes are provided as folded, stacked, sheets of disposable wipes, each wipe meant for one-time use. Pre-moistened wipes are often referred to as disposable wet wipes.

Brief Summary Text (7):

Historically various types of nonwoven webs have been utilized for use as disposable wet wipes. The various types of nonwovens differ in visual and tactile properties, usually due to the particular production process used in their manufacture. In all cases, however, consumers of disposable wipes suitable for use as baby wipes demand softness and flexibility in addition to other functional attributes such as cleaning ability. Softness and flexibility can be correlated to certain measurable physical parameters, but perceived softness is often more subjective in nature, and consumers often react to visual and tactile properties in their assessment of wet wipes.

Brief Summary Text (8):

By way of example, The Procter & Gamble Co. of Cincinnati OH markets PAMPERS.RTM. Baby Fresh.TM. wipes in North America, the nonwoven substrates of which are manufactured via an airlaid adhesive-bonded process that includes the imprinting of calendar-embossed designs that are permanent even when wet. The nonwoven web has a

dry basis weight of about 63.6 grams per square meter (gsm) and a thickness when wet of about 0.61 mm. The embossed pattern provides a visually-pleasing effect which gives added consumer recognition and appeal. Moreover, consumers perceive certain embossed designs as imparting softness, which in some cases may be technically true. Consequently, PAMPERS.RTM. Baby Fresh.TM. wipes have enjoyed significant commercial success in the United States.

Brief Summary Text (9):

In Europe, however, The Procter & Gamble Co. markets PAMPERS.RTM. Baby Fresh disposable wipes, the nonwoven substrates of which are manufactured via a spunlace process and are not embossed with any designs. The nonwoven web has a dry basis weight of about 60-62 gsm, and a thickness when wet of about 0.52 mm. Although there is no visual signal of softness such as embossed designs, the lack of thermal or chemical bonds in the spunlaced web results in very low elastic modulus and bending torque. The combination of low elastic modulus, low bending torque, and appropriate fiber choice give these wipes superior inherent softness. These disposable wipes have enjoyed significant commercial success in many parts of Europe, for example the United Kingdom.

Brief Summary Text (10):

It has been found, therefore, that when appropriate fibers are utilized, the spunlace process produces a relatively soft, flexible and strong nonwoven web suitable for use as disposable baby wipes. However, when embossed to provide additional aesthetic appeal, particularly to North American consumers, it has been found that the flexibility is unacceptably decreased (i.e., stiffness increases noticeably, such that consumers, especially in Europe, indicate disapproval). Rather than marketing two different products to the world's consumers, it would be economically advantageous to find a common product that combines the visual aesthetic appeal of embossed wet wipes with the inherent softness of un-embossed spunlace-produced wet wipes.

Brief Summary Text (13):

Further, it would be desirable to provide an embossed spunlace nonwoven web that exhibits permanent embossed patterns when wet, and which does not exhibit increased stiffness relative to the precursor (i.e., un-embossed) web.

Detailed Description Text (2):

A nonwoven wipe suitable for use as a pre-moistened baby wipe is disclosed. The nonwoven is comprised of fibers, including thermoplastic fibers, having a predetermined nominal fiber length, the wipe being calendar-embossed with a pattern comprising a plurality of discrete icons, each of the icons having an equivalent icon diameter of at least about one half the nominal fiber length, and the plurality of icons being separated one from another by an equivalent unbonded area diameter of at least about one half the nominal fiber length. In a preferred embodiment the nonwoven web is spunlaced, with a fiber composition of between about 40%-60% viscose, and the remainder thermoplastic fiber. The wipes of the present invention combine superior softness with embossed designs for better aesthetic appeal.

Detailed Description Text (4):

The wipes of the present invention comprise a nonwoven substrate having a predetermined embossed pattern. The wipe is preferably a pre-moistened wipe which is moistened with a lotion after being embossed. The substrate can comprise a nonwoven web formed of natural fibers, synthetic fibers, or combinations thereof suitable for use as a pre-moistened wipe such as a wet wipe, and is preferably a soft, flexible nonwoven produced via the spunlace process. The lotion can comprise an aqueous solution and can include a surfactant and/or a cosurfactant/foam building agent/emulsifier and/or a non-cellulosic water soluble organic polymer.

Detailed Description Text (6):



The term "nonwoven" as used herein refers to a sheet, web, or batt of directionally or randomly oriented fibers, bonded by friction, and/or cohesion and/or adhesion, excluding paper, tissue paper, and products which are woven, knitted, tufted, or stitch-bonded. A web is considered to be a paper web, and therefore categorically not included as a web of the present invention, if the constituent fibers have a length to diameter ratio less than 300, or a nominal (or average) fiber length of less than about 1 mm.

Detailed Description Text (7):

The term "aqueous solution" as used herein refers to a solution that is at least 50 percent by weight water, more preferably at least 75% by weight water, and most preferably at least 94% by weight water.

Detailed Description Text (11):

As used herein, the term "basis weight" means the weight per unit area of the wipe, or the nonwoven web substrate. One method of determining basis weight, therefore, is to multiply the density of the web by the thickness of the web. The units of basis weight are typically expressed as grams per square meter.

Detailed Description Text (12):

As used herein, the term "water soluble" means that a component is soluble or otherwise dispersible (such as to provide a micellar solution) in water at a level of at least about 0.25 percent by weight at 25 degrees Centigrade.

Detailed Description Text (16):

As used herein the term "organic water soluble polymer" means an organic compound formed by the joining of smaller molecules, referred to as monomers. The term is generally used to refer either to a macromolecule made up of a large number of monomers linked by covalent bonds, e.g., polypeptides, nucleic acids, polysaccharides, and plastics, or to a protein made up of several subunits linked by covalent or noncovalent bonds, e.g., hemoglobin or IgM immunoglobulin.

Detailed Description Text (17):

As used herein with respect to nonwoven webs, the term "machine-direction" refers to the direction of web travel as the nonwoven web is produced, for example on commercial nonwoven making equipment. Likewise, the term "cross-direction" refers to the direction in the plane of the web perpendicular to the machine-direction. With respect to individual wipes, the terms refer to the corresponding directions of the wipe with respect to the web the wipe was made from. These directions are carefully distinguished herein because the mechanical properties of nonwoven webs can differ, depending on how the test sample is oriented during testing. For example, tensile properties of a nonwoven web differ between the machine-direction and the cross-direction, due to the orientation of the constituent fibers, and other process-related factors.

Detailed Description Text (18):

For disposable wet wipes suitable for baby wipes, it has been found that softness, flexibility and thickness of the wipe all contribute to consumer satisfaction. It has been found that these consumer-preferred attributes are significantly impacted by the method of making the nonwoven substrate, and the presence or absence of aesthetically pleasing embossed designs. In an effort to quantify, measure, and design in preferred softness and flexibility parameters in a wet wipe, extensive consumer panel testing was performed. The results of the consumer panel testing revealed that, for a given thickness of the wipe itself, cross-direction (CD) mechanical properties of elastic modulus and bending torque are the most relevant technical measures of consumer-acceptable softness and flexibility. Beyond simply being technically soft and flexible, however, an additional requirement for commercially successful baby wipes in North America is the presence of aesthetically-pleasing embossed designs that can signal added softness and quality to consumers.

Detailed Description Text (21):

The wipe 1 of the present invention can comprise a substrate comprising a nonwoven web of natural fibers, synthetic fibers, or mixtures of natural and synthetic fibers. Suitable natural fibers include but are not limited to cellulosic fibers, such as wood pulp fibers, cotton, and rayon. Suitable synthetic fibers include fibers commonly used in textiles, including but not limited to polyolefins, such as polyester and polypropylene fibers. In a preferred embodiment viscose (rayon) is used in combination with polypropylene for an economical balance of softness and bondability (in embossing). The viscose provides excellent softness and clothlike properties, but used alone tends to produce a flannel-like web, which is not currently preferred by consumers of baby wipes. Polypropylene permits the web to be thermally bonded in an embossing step, but used alone produces a web that is too slick and synthetic-feeling for consumers of baby wipes. Blending the two types of fibers changes the flannel-like feel of the viscose fibers into a more silky-feel, which gives the wipes a silky-soft feel, which is consumer approved for baby wipes.

Detailed Description Text (22):

Beyond the particular fiber composition of the nonwoven web, for consumer-preferred, soft, flexible baby wipes, two technical measures have been identified as being most relevant: cross-direction (CD) bending torque, and CD elastic modulus. Both of these technical measures are determined by way of the methods disclosed in the Test Methods section below. Both technical measures are disclosed herein as made on the lotioned, i.e., wet, wipe. Currently preferred substrates have CD bending torque values less than about 0.017 gm-cm, and CD modulus values of less than about 200 g/in (7.874 g/mm)

Detailed Description Text (23):

Currently, the preferred process for producing very soft, flexible, "drapy" webs having very low CD modulus characteristics is spunlacing. Spunlacing technology is a known method of producing nonwoven webs, and involves laying down a matrix of fibers, for example as a carded web, and entangling the fibers to form a coherent web. Entangling is typically accomplished by impinging the matrix of fibers with high pressure water from a plurality of suitably-placed water jets, often referred to as hydroentangling. In theory, other fluids can be used as the impinging medium, such as compressed air. The fibers of the web are thus entangled, but not physically bonded one to another. The fibers of a spunlaced web, therefore, have more freedom of movement than fibers of webs formed by thermal or chemical bonding. Particularly when lubricated by wetting as a pre-moistened wet wipe, such spunlaced webs provide webs having very low bending torques and low moduli.

Detailed Description Text (24):

For use as a pre-moistened wipe, webs of the present invention have a dry basis weight of between about 55 grams per square meter (gsm) and 75 gsm, more preferably between about 60 gsm and 70 gsm. Currently preferred embodiments have a dry basis weight between about 60-62 gsm. A preferred spunlaced web of the present invention is available from the J. W. Suominen Company of Finland, and sold under the Fibrella trade name. In particular, Fibrella 3100 and Fibrella 3160 have been found to be useful as precursor webs of the present invention. Fibrella 3100 is a 62 gsm nonwoven web comprising 50% 1.5 denier polypropylene fibers and 50% 1.5 denier viscose fibers. Fibrella 3160 is a 60 gsm nonwoven web comprising 60% 1.5 denier polypropylene fibers and 40% 1.5 denier viscose fibers. In both preferred webs, the average fiber length is about 1.5 inches (about 3.8 cm). Average fiber length refers to the length of the individual fibers if straightened out.

Detailed Description Text (27):

As mentioned above, however, for a consumer-acceptable baby wipe in North America, it is desirable to have an embossed pattern that signals additional softness and which otherwise provides additional aesthetic appeal. The embossed pattern should

be visible when wet. However, embossing is typically used to increase the modulus of nonwoven webs, thereby usually also increasing the strength of the web. As such, embossing by known methods, and in particular with known patterns for nonwoven webs, tends to dramatically increase the bending torque and/or the modulus of the materials. Such increases in these mechanical properties is undesirable, and commercially unacceptable for soft, flexible baby wipes.

Detailed Description Text (28):

One method of providing an embossed pattern is via known thermal calendar-bonding with known patterns. In a calendar-bonding process the nonwoven web is fed into the nip of two counter-rotating calendar rollers, at least one of which is heated and comprises raised areas that compress and melt-bond adjacent fibers of the nonwoven web in the compressed regions. While being a good method of embossing, such melt-bonding and re-solidifying of the fibers tends to stiffen the web, making it unsatisfactory for use as a baby wipe. For example, in the above-mentioned Fibrella spunlaced webs from Suominen embossing can bind adjacent polypropylene fibers, impeding the free (or semi-free) movement of adjacent fibers, thus creating a stiffer structure.

Detailed Description Text (31):

By way of comparison, spunbond webs comprise continuous fibers thermally bonded to one another, which results in relatively stiff nonwoven web structures.

Detailed Description Text (33):

Although not considered a nonwoven for the purposes of the present invention, paper, for example wet-laid tissue paper, typically comprises very short fibers, on the order of three millimeters or less.

Detailed Description Text (40):

Without being bound by theory, it is believed that the above described limits are necessary for the production of a consumer-acceptable nonwoven webs for use as baby wipes. However, it is not intended that insubstantial deviations from the above-mentioned limits should avoid the scope of the claims. For example, a web having an insubstantial number of icons having an equivalent unbonded area diameter less than about one-half the average fiber length would be considered to have insubstantial differences relative to the web of the present invention.

Detailed Description Text (42):

Therefore, in one embodiment the wipe can be described as a wipe comprising a nonwoven web comprised of fibers having a predetermined nominal fiber length, and an embossed pattern comprising a plurality of discrete icons, each icon having an equivalent icon diameter of at least one half the nominal fiber length, and the plurality of icons being separated one from another by an equivalent unbonded area diameter of at least one half the nominal fiber length.

Detailed Description Text (45):

The sample labeled "Control" in Table 1 represents the base, or precursor, nonwoven web without any emboss pattern. As mentioned above, this web represents a web having excellent softness and flexibility, both attributes which correlate well with consumer data on softness levels. This base nonwoven web would make an excellent wet wipe for disposable baby wipes, but it lacks the visual softness signals provided by embossing. Particularly in certain regions, such as North America, embossed patterns are necessary for consumer appeal.

Detailed Description Text (47):

The embossed pattern of Sample 2 is shown in FIG. 2. In this pattern, the icons are interspersed with wavy lines which form part of the overall embossed pattern. Wavy lines, which are not considered to be icons but do form a boundary for the equivalent unbonded area, are believed acceptable as long as they do not form a grid pattern, or otherwise lock up fibers with adjacent fibers in the nonwoven web.

Therefore, it is believed that if generally parallel and/or wavy lines are incorporated in the embossed pattern, they should not intersect, and they should be spaced apart a distance at least equal to half the nominal fiber length.

Detailed Description Text (53):

As shown, therefore, the wipe of the present invention can be embossed with an aesthetically-pleasing design of spaced apart discrete icons, without substantially compromising certain mechanical properties of the precursor nonwoven material. Therefore, the web of the present invention could be described as an embossed nonwoven web having a plurality of spaced apart discrete icons defining between about 4% and 8% total bond area, and exhibiting CD bending torque characteristics that differ insubstantially from the precursor web. The data in Table 1 for CD bending torque, for example, shows statistically insignificant differences in CD bending torque for the precursor web and webs embossed with those of the present invention.

Detailed Description Text (54):

Likewise, the present invention could be described as an embossed nonwoven web having a basis weight of about 62 gsm, and having a plurality of spaced apart discrete icons defining between about 4% and 8% total bond area, exhibiting CD elastic modulus less than about 200 g/in.

Detailed Description Text (56):

The pre-moistend wipe of the present invention comprises an aqueous solution. The lotion is preferably at least about 85 percent by weight water, more preferably at least about 90 percent by weight water, and still more preferably at least about 95 by weight water. A currently preferable lotion is an oil-in-water emulsion type formulation comprising a polymeuc emulsifier, preferably sodium acrylates, and silicon oil, preferably dimethicone.

Detailed Description Text (57):

The lotion of the present invention can comprise an aqueous solutjion comprising a surfactant selected from the group consisiting of phosphate-quaternary amine compounds and non-ionic surfactants, and effective amounts of a second ingredient selected from the group consisting of non-cellulosic organic water soluble polymers and alkoxyated alcohols. These amount of these components can be adjusted in effective amounts to provide varying levels of adhesional wetting to account for various fold patterns and dispensing openings to deliver reliable wet wipe dispensing.

Detailed Description Text (63):

As used herein, an emollient is a material that softens, soothes, supples, coats, lubricates, or moisturizes the skin. The term emollient includes, but is not limited to, conventional lipid materials (e.g. fats, waxes), polar lipids (lipids that have been hydrophylically modified to render them more water soluble), silicones, hydrocarbons, and other solvent materials. Emollients useful in the present invention can be petroleum based, fatty acid ester type, alkyl ethoxylate type, fatty acid ester ethoxylates, fatty alcohol type, polysiloxane type, mucopolysaccharides, or mixtures thereof.

Detailed Description Text (64):

Humectants are hygroscopic materials that function to draw water into the stratum comeum to hydrate the skin. The water may come from the dermis or from the atmosphere. Examples of humectants include glycerin, propylene glycol, and phospholipids.

Detailed Description Text (65):

Fragrance components, such as perfumes, include, but are not limited to water insoluble oils, including essential oils.

Detailed Description Text (66):

Fragrance solubilizers are components which reduce the tendency of the water insoluble fragrance component to precipitate from the lotion. Examples of fragrance solubilizers include alcohols such as ethanol, isopropanol, benzyl alcohol, and phenoxyethanol; any high HLB (HLB greater than 13) emulsifier, including but not limited to polysorbate; and highly ethoxylated acids and alcohols.

Detailed Description Text (76):

The CD bending torque was measured using a Kawabata KES-FB2 pure bending tester. This test is part of the Kawabata system which is designed to measure basic mechanical properties of nonwovens, and other web materials. Bending torque was established by averaging the results of at least three samples tested according to the following criteria: Sample size=8.9 cm.times.8.9 cm Lotion saturation=3.4 g/g Calibration mass=50 grams Instrument sensitivity=5.times.1 Front moving jaw to rear moving jaw gap setting=1 cm Sided orientation of sample=none Number of bending cycles per measurements=4 Cycle curvature=0 cm.sup.-1 to +1 cm.sup.-1 to -1 cm.sup.-1 to 0 cm.sup.-1 Cycle rate=0.5 cm.sup.-1 /sec Number of measurements=10 Bending torque (g-cm)=slope of linear regression line between approximately 0.2 cm.sup.-1 and 0.7 cm.sup.-1 of the Moment (g-cm/cm) vs. Curvature 1(/cm curve)

Detailed Description Text (78):

The CD modulus was tested by the MTS #7997 device. In particular, a sample having a 25.4 mm width was cut from a nonwoven wipe of the present invention, being careful that the width dimension was in the machine direction, that is, the dimension to be strained is the cross-direction. The tensile equipment was set with a 102 mm jaw separation, and a 100 mm/min strain rate. The wipe samples were tested pre-moistened with an oil-in-water emulsion, with the level of saturation being 340%, that is, 3.4 grams of lotion per gram of dry substrate. Elastic modulus,  $E_m$ , is defined as the slope of the linear part of the load/sample width verses strain curve. If more than one linear region can be identified, the elastic modulus for the substrate is defined by the linear section with the smallest slope as shown in the graph of FIG. 7.

## CLAIMS:

1. A wipe comprising a nonwoven web comprised of thermoplastic fibers having a predetermined nominal fiber length, the wipe being calendar-embossed with a pattern comprising a plurality of discrete icons, each said icon having an equivalent icon diameter of at least about one half the nominal fiber length, and said plurality of icons being separated one from another by an equivalent unbonded area diameter of at least about one half the nominal fiber length and wherein said wipe further comprises an aqueous solution.

2. The wipe of claim 1, wherein said nonwoven is spunlaced.

11. An embossed nonwoven web formed from a precursor web comprised of fibers having a fiber length of nominally between about 0.5 and 3.0 inches and having a plurality of spaced apart discrete icons defining between about 4% and 8% total bond area, said web exhibiting CD bending torque characteristics that differ insubstantially from the precursor web and wherein said web further comprises an aqueous solution.

12. The web of claim 11, wherein said nonwoven is spunlaced.

19. An embossed nonwoven web formed from a precursor web comprised of fibers having a fiber length of nominally between about 0.5 and 3.0 inches and having a plurality of spaced apart discrete icons defining between about 4% and 8% total bond area, said wipe exhibiting a CD elastic modulus less than 200 g/in and wherein said web further comprises an aqueous solution.

20. The web of claim 19, wherein said nonwoven is spunlaced.

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L13 ANSWER 3 OF 3 USPATFULL

AN 2001:86026 USPATFULL

TI Fluid composition in the form of an oil-in-water emulsion comprising an acrylic terpolymer and its uses, in particular its **cosmetic** uses

IN Simon, Pascal, Vitry sur Seine, France

PA L'Oreal, Paris, France (non-U.S. corporation)

PI US 6245322 B1 20010612

AI US 2000-503200 20000214 (9)

PRAI FR 1999-3319 19990317

DT Utility

FS GRANTED

EXNAM Primary Examiner: Dodson, Shelley A.; Assistant Examiner: George, Konata M.

LREP Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

CLMN Number of Claims: 20

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 488

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Fluid composition in the form of an oil-in-water emulsion comprising an acrylic terpolymer and its uses, in particular its **cosmetic** uses

SUMM For various reasons related especially to a better comfort of use (softness, emollience and others), current **cosmetic** compositions are generally provided in the form of an emulsion of the oil-in-water (O/W) type composed of a continuous aqueous. . .

SUMM . . . comprise emulsifying surfactants, the size of the oily globules is generally greater than several microns. Such emulsions can have inadequate **cosmetic** and physicochemical properties (oily feel, instability over time). Increasing the level of the surfactants does not generally solve the problems discussed above. The stability required is not always achieved and the **cosmetic** properties are not improved (waxy and heavy feel, lack of freshness on application). Furthermore, as indicated above, it is also. . .

SUMM . . . and stable oil-in-water emulsions which optionally do not comprise emulsifying surfactant conventionally used in O/W emulsions and which exhibit good **cosmetic** properties without having the disadvantages of compositions described above.

SUMM . . . has a homogeneous texture which is pleasant on application while being stable on storage. Furthermore, it is very fluid. The **viscosity** of the emulsions generally ranges from 0.02 to 3 **Pa.multidot.s**, this **viscosity** being measured at approximately 25.degree. C. using a "Rheomat 180" viscometer equipped with a 2 rotor. This range for the **viscosity** includes all specific values and subranges therebetween, such as 0.05, 0.1, 0.2, 0.5, 1 and 2 **Pa.multidot.s**.

SUMM . . . oily phase can thus be composed of any fatty substance and in particular oils conventionally used in the cosmetics or **dermatological** fields.

SUMM The compositions which are the subject-matter of the invention find their application in particular in a large number of **cosmetic** treatments of the skin, lips and hair, including the scalp, in particular for caring for, removing make-up from, cleansing and/or. . .

SUMM A further subject-matter of the invention is consequently the **cosmetic** use of the composition as defined above for caring for, removing make-up from, cleansing and/or scenting the skin, lips and/or. . .

SUMM A final subject-matter of the invention is a process for the **cosmetic** treatment of the skin, including the scalp, hair and/or lips, characterized in that a composition as defined above is applied. . .

SUMM The compositions according to the invention can also be used for impregnating fabrics (woven and **nonwoven**) constituting cleansing wipes or towelettes intended for cleansing and/or removing make-up from the skin, eyelashes and/or lips. The woven or **nonwoven** fabric can be composed of natural or synthetic fibres and, for example, of cotton, polyamide, polyethylene, polyester, acrylic polymer, rayon, . . .

DETD . . . fluid emulsion is obtained which is particularly suitable for caring for the face in the case of greasy skin. The **viscosity** of the emulsion is 0.08 Pa.multidot.s (0.8 poises) on a Rheomat 180 equipped with a measuring body of 2 rotor, anchor type. It is also possible. . .

DETD A very fluid emulsion is obtained having a **viscosity** of 0.1 Pa.multidot.s (1 poise) which is particularly suitable for scenting the body. Its penetration is instantaneous and does not leave a greasy. . .

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